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Amendments to the Claims

This listing of claims replaces all prior versions and listings of claims in the application.

Listing of Claims

1. (Currently Amended) A jitter canceling method ~~for canceling video signal jitter in predetermined time periods of a video signal in processing of the video signal using as a reference a first synchronization signal and a second synchronization signal different from said first synchronization signal, said method~~ comprising the steps of:

~~executing a second synchronization signal generating operation for generating said second synchronization signal from an external reference signal;~~

detecting ~~time difference~~ jitter in a time difference between a ~~said~~ first synchronization signal and a ~~said~~ second synchronization signal;

<u>reducing said time difference jitter by</u> controlling <u>an amount of delay of</u> said second synchronization signal ~~generating operation~~ in response to said time difference jitter, ~~to reduce said time difference jitter.~~

<u>said step of detecting jitter including:</u>

<u>detecting a phase difference of said second synchronization signal relative to said first synchronization signal in certain time periods; and</u>

<u>determining whether or not said phase difference is the same in two adjacent said time periods to generate an unmatch signal when said phase difference is not the same.</u>

2. (Currently Amended) A jitter canceling method according to claim 1, wherein the ~~second synchronization signal generating operation~~ <u>step of reducing said time difference jitter</u> includes the steps of:

generating a primitive second synchronization signal from ~~said external~~ <u>a</u> reference signal;

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delaying said primitive second synchronization signal by a selected amount of delay to generate a delayed second synchronization signal; and

matching said delayed second synchronization signal with said ~~video~~ first synchronization signal in timing to generate said second synchronization signal.

3. (Currently Amended) A jitter canceling method according to claim 2, wherein said step of delaying includes:

generating a plurality of delayed second synchronization signals having different amounts of delay; and

selecting one delayed second synchronization signal having [[a]] said selected amount of delay from said plurality of delayed second synchronization signals.

4. (Currently Amended) A jitter canceling method according to claim 2, wherein said step of matching ~~said delayed synchronization signal with said video signal in timing~~ uses a reference clock ~~derived from said video~~ associated with said first synchronization signal.

5. (Currently Amended) A jitter canceling method according to claim 4, wherein said step of matching said delayed synchronization signal with said ~~video~~ first synchronization signal in timing includes:

sampling said delayed second synchronization signal based on said reference clock to generate a sampled synchronization signal; and

generating said second synchronization signal which matches with said ~~video~~ first synchronization signal in timing based on said sampled synchronization signal.

6. (Currently Amended) A jitter canceling method according to claim 2, wherein said step of detecting ~~time difference~~ jitter includes:

~~detecting a phase difference of said second synchronization signal relative to said first synchronization signal every said predetermined time period;~~

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~~determining whether or not said phase difference is the same in two adjacent said predetermined periods to generate an unmatch signal when said phase difference is not the same; and~~

counting the number of said unmatch signals to generate a delay selection signal for specifying said selected amount of delay in accordance with the result of the counting.

7. (Original) A jitter canceling method according to claim 6, wherein said step of reducing time difference jitter includes the step of increasing or decreasing said selected amount of delay in response to said delay selection signal.

8. (Currently Amended) A jitter canceling method according to claim 7, wherein said selected amount of delay is increased or decreased each time by a ~~predetermined~~ unit mount of delay.

9. (Original) A jitter canceling method according to claim 7, wherein said selected amount of delay is initially set to be equal to zero.

10. (Currently Amended) A jitter canceling method according to claim 1, wherein:
said first synchronization signal is an internal synchronization signal generated from ~~said~~ a video signal ~~under processing~~; and
said second synchronization signal is an external synchronization signal generated from a ~~said external~~ reference signal.

11. (Currently Amended) A jitter canceling method according to claim 1, wherein said second synchronization signal comprises a trigger signal.

12. (Currently Amended) A jitter canceling apparatus ~~for canceling video signal jitter in predetermined time periods of a video signal in processing of the video signal using as a~~

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~~reference a first synchronization signal and a second synchronization signal different from said~~ ~~first synchronization signal, said apparatus~~ comprising:

~~a synchronization signal generator receiving an external reference signal to generate a~~ ~~primitive second synchronization signal;~~

a time difference jitter detector connected to receive ~~said~~ a first synchronization signal and ~~said~~ a second synchronization signal and detecting jitter in a time difference between said first and second synchronization signals to generate a time difference jitter signal indicative of the time difference jitter; <u>and</u>

a delay circuit connected to receive said ~~primitive second synchronization signal and said~~ time difference jitter signal and <u>reduce said time difference jitter by controlling an amount of</u> <u>delay of</u> ~~delaying~~ said ~~primitive~~ second synchronization signal ~~by a selected amount of delay~~ in response to said time difference jitter signal; ~~to generate a delayed second synchronization~~ ~~signal; and~~

~~a timing matching circuit generating from said delayed second synchronization signal~~ ~~said second synchronization which is matched with said video signal in timing~~

<u>said time difference jitter detector including:</u>

<u>a phase difference detector detecting a phase difference of said second synchronization</u> <u>signal relative to said first synchronization signal in certain time periods; and</u>

<u>a match detector determining whether or not said phase difference is the same in two</u> <u>adjacent said time periods to generate an unmatch signal when said phase difference is not the</u> <u>same.</u>

13. (Currently Amended) A jitter canceling apparatus according to claim 12, wherein said delay circuit includes:

<u>a synchronization signal generator receiving a reference signal to generate a primitive</u> <u>second synchronization signal;</u>

a delay signal generator generating <u>from said primitive second synchronization signal</u> a plurality of delayed second synchronization signals having different amounts of delay; and

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a selector connected to receive said plurality of delayed second synchronization signals and selecting one delayed second synchronization signal having ~~said~~ a selected amount of delay from said plurality of delayed second synchronization signals,

and wherein said jitter canceling apparatus further includes a timing matching circuit generating from said delayed second synchronization signal said second synchronization signal which is matched with said first synchronization signal in timing.

14. (Currently Amended) A jitter canceling apparatus according to claim 13, wherein said plurality of delayed second synchronization signals are different one after another by a ~~predetermined~~ unit amount of delay.

15. (Original) A jitter canceling apparatus according to claim 13, wherein said delay circuit includes delay lines.

16. (Currently Amended) A jitter canceling apparatus according to claim [[12]] 13, wherein said timing matching circuit uses a reference clock ~~derived from said video signal~~ associated with said first synchronization signal.

17. (Currently Amended) A jitter canceling apparatus according to claim 16, wherein said timing matching circuit includes:

a sampling circuit sampling said delayed second synchronization signal based on said reference clock to generate a sampled synchronization signal; and

a generator generating said second synchronization signal matched with said ~~video~~ first synchronization signal in timing based on said sampled synchronization signal.

18. (Original) A jitter canceling apparatus according to claim 16, wherein said selected amount of delay by which said primitive second synchronization signal is delayed has a maximum of less than one period of said reference clock.

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19. (Canceled)

20. (Currently Amended) A jitter canceling apparatus according to claim [[19]]13, wherein said time difference jitter detector further comprises:

a ~~jitter reducing~~ counter circuit counting the number of said unmatch signals to generate a delay selection signal for specifying said selected amount of delay in accordance with the result of the counting, thereby increasing or decreasing said selected amount of delay in response to said delay selection signal.

21. (Currently Amended) A jitter canceling apparatus according to claim 20, wherein said selected amount of delay is increased or decreased each time by a ~~predetermined~~ unit delay.

22. (Original) A jitter canceling apparatus according to claim 20, wherein said selected amount of delay is initially set to be equal to zero.

23. (Currently Amended) A jitter canceling apparatus according to claim 12, wherein:

said first synchronization signal is an internal synchronization signal generated from ~~said~~ a video signal ~~under processing~~; and

said second synchronization signal is an external synchronization signal generated from a ~~said external~~ reference signal.

24. (Currently Amended) A jitter canceling apparatus according to claim 12, wherein said ~~predetermined~~ time period is a frame period or a horizontal period.

25. (Currently Amended) A jitter canceling apparatus according to claim 12, wherein said synchronization signals comprise[[is]] a frame signal or a horizontal synchronization signal.

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26. (Currently Amended) A jitter canceling apparatus according to claim 23, [[12,]] wherein said external reference signal is a video signal of the same type as or different from said video signal, and is associated with said first synchronization signal.

27. (Canceled)

28. (Original) A video signal processing apparatus comprising the jitter canceling apparatus according to claim 12.

29. (Original) A video signal processing apparatus according to claim 28, wherein said video signal processing apparatus is a waveform monitor.